AGRICULTURAL MARKETING REFORMS IN MAHARASHTRA:
A STUDY OF VEGETABLE SUPPLY CHAIN IN PUNE DISTRICT.

SYNOPSIS OF THE THESIS

TO BE SUBMITTED FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY IN ECONOMICS

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1. Introduction:

‘Everything else can wait, but not Agriculture’, said Pandit Jawaharlal Nehru in his speech at IARI in 1948. Professor M S Swaminathan points out that he said this in the context of the Bengal Famine of 1942-43 and the acute food scarcity prevailing in the country in 1947. Even in the 21st century, agriculture continues to be a fundamental instrument for sustainable development and poverty reduction. Three of every four poor people in developing countries live in rural areas—2.1 billion living on less than $2 a day and 880 million on less than $1 a day—and most depend on agriculture for their livelihoods. Therefore agricultural growth is imperative for eradicating poverty in the developing world and particularly in India. Global development experience, especially from the BRIC countries, reveals that one percentage point growth in agriculture is at least two to three times more effective in reducing poverty than the same magnitude of growth emanating from non-agriculture sector. This entails that policy makers should focus their efforts on the agricultural sector and ensure that reforms are implemented in the right degree and spirit. There is still a core truth in Theodore Schultz’ Nobel Prize lecture: “Most of the world’s poor people earn their living from agriculture, so if we knew the economics of agriculture, we would know much of the economics of being poor.”

Agriculture sector in general and agricultural marketing in particular, need to be addressed with immediate policy measures and reforms at the central and state levels in India. The aim of reforms is to provide farmers assured and remunerative markets as observed by Prof. Swaminathan in his report on National Commission on Farmers 2007. The urgency of agricultural reforms is highlighted by the farmer suicides that have only increased in the last five years. Farmer leader Mr. Raju Shetti of the Swabhimani Shetkari Sanghatna says, “The start of the farm land crisis is the failure of the farmer to realise competitive pricing for his produce. With input costs going up, the cost of the output should commensurate that. Once this is assured, the farmer will be able to take care of adverse climate also”.

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3 Planning Commission, Faster, sustainable and more inclusive growth - an approach to the 12th Five Year Plan (2012-17), October 2011, New Delhi, Govt of India. Pg 7 retrieved from http://planningcommission.gov.in/plans/planrel/12appdrft/appraoch_12plan.pdf

Access to markets is the other point which Mr. Shetti highlights. Farmers in India are in dire straits and need urgent attention.

Agriculture is a State subject according to entry 14 in list II (State list) of the Seventh schedule of the Constitution of India. The enlargement of entry 33 in the Concurrent list through Constitution (3rd Amendment Act) 1954 includes; trade, commerce, production, supply and distribution of foodstuffs including edible oils and oilseeds in the Concurrent list. This enabled the center to enact the Model Agricultural Produce Marketing Committee Act in 2003, to guide agriculture in a more liberalized economic environment. The Directive Principles of State Policy in Constitution of India emphasize the need for public investment in Agriculture. The agricultural sector is troubled by numerous issues like uncertainty of climate, inadequate irrigation, lack of insurance, lack of finance, weak agricultural marketing infrastructure etc.

Agricultural marketing is the weak link in Indian agriculture. Unorganized retailers form the bulk of this sector with 96-97% of business managed by them. Organised retailers have a miniscule share of 3-4% in the sector even after 15 years from the announcement of reforms in India. The Agricultural Marketing sector is afflicted with maladies, like the over regulated system of Market Committees, the long chain of Intermediaries and State neglect of public investment in market infrastructure. This results in poor remuneration to farmers and inefficient market functioning. To remedy this state of affairs in agricultural marketing the Central and Maharashtra state governments have introduced various reform measures in the sector. This study aims at understanding the impact of these reforms on agricultural marketing sector stakeholders through an analysis of changing nature of the vegetable supply chain in Pune district of Maharashtra.

2. Rationale of study:

Land resources of India are 2.4% of the world’s geographical area supporting 16% of the world population. Growth in GVA in Agriculture & Allied Sectors in 2016-17 was 4.9% p.a. Share of Agriculture & Allied Sectors in total GVA in 2016-17 at current prices was 17.32% and GVA is around of 23.82 lakh crore INR. The small and marginal land...

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6 Economic Survey of India 2016-17, Vol 2, chapter 7, Agriculture and Food Management pg 165.
holdings (less than 2.0 ha) account for 72 percent of land holdings\(^7\). GCF in Agriculture & Allied Sectors as percentage of GVA by public sector is a dismal 2.8%. This explains the lack of production and marketing infrastructure in the economy. There are 2,477 principal regulated markets based on geography (the APMCs), and 4,843 submarket yards are regulated by the respective APMCs\(^8\).

Horticulture is the most promising sub group within agriculture. Horticultural crops are short duration crops and multi cropping patterns can be utilized to increase incomes for farmers. Horticulture crops are considered in academic literature as ‘high value’ crops. This is on account of the higher yields from these crops as well as the higher income elasticity of demand for these crops. On the production and productivity front, the horticulture sector outperformed conventional food crops between 2004-05 and 2014-15. During 2015-16 the production of horticulture crops was about 286.2 million tonnes from an area of 24.47 million hectares. Amongst the horticulture crops, vegetables constitute more than 50 per cent of total horticulture production. The production of vegetables has increased from 58,532 thousand tonnes to 1,69,064 thousand tonnes since 1991-92 to 2015-16. Per capita availability of vegetables in India is 357 gm/ person/day, which is helping in fighting malnutrition. The vegetable and fruit segments of the horticulture sector can be key drivers of agricultural growth and can be further developed by appropriate investments in harvesting, low cost storage facilities and processing technologies along with development of marketing infrastructure. The key challenge that the horticulture sector faces in India are post-harvest losses, availability of quality planting material and lack of market access for horticultural produce of small farmers. The combined wastage (harvest and post-harvest) for horticulture crops between 5 to 15 per cent in the case of fruits and vegetables is very high.\(^9\)

In horticulture, vegetable crops have been identified as the most remunerative crops for replacing subsistence farming in rain-fed, dry land, hills, arid and coastal agro ecosystems. Being short duration crops with lesser capital requirement, vegetables are also best suited

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\(^7\) Op cit pg 167  
\(^8\) Op cit pg 177  
\(^9\) Economic Survey of India 2016-17, Vol 2, chapter 7, Agriculture and Food Management pg 179
for crop rotation. (G.Kumar,2014)

While the area under horticulture crops grew by about 2.7 per cent per annum, productivity increased by 37 per cent during 2004-05 and 2014-15. As a result, India has maintained its second rank in the global production of fruits and vegetables, next only to China. West Bengal, Uttar Pradesh and Bihar have the highest production of vegetables. There is also large proportion of poverty in these very states. This implies that horticultural production is not as remunerative as cash crops and other food crops grown in other regions. The Minimum Support Price offered to other crops is missing in vegetables. Further markets function inefficiently leading to poor price discovery for horticultural crops in general and vegetables in particular.

The National Commission on Agriculture (XII report 1976) defines agricultural marketing as: ‘Agricultural marketing is a process which starts with a decision to produce a saleable farm commodity and it involves all aspects of the market structure both functional and institutional based on technical and economic considerations and includes pre and postharvest operations like assembling, storage, transportation and distribution.’ Agricultural marketing occupies a fairly low place in agricultural development policies in developing countries. There has been concern in recent years regarding the efficiency of marketing of fruits and vegetables, and that this is leading to high and fluctuating consumer prices and only a small share of the consumer rupee reaching the farmers. Marketing of horticultural crops is complex especially because of perishability, seasonality and bulkiness.

Indian Agricultural Marketing sector has emerged through the centuries, influenced by socio-cultural factors as well as the imperialistic policies of the British Government. Regulation of markets was initiated by the British government on the recommendation of the Royal Commission for Agriculture in 1928. Gradually many Indian states adopted market regulation for agricultural produce. Since the 1950s Agricultural Produce Market Committees (APMCs) have been operating these markets across the country. India adopted the Constitution in 1950. Under this Constitution, Agriculture is a State subject. But vide


11 State of Indian Agriculture Report 2015-16, pg.11.
Amendment 3, the interstate trade and commerce in agricultural produce was brought into the Concurrent list. The government of India adopted the Model APMC Act in the year 2003. The Act would help to liberalise the agricultural marketing sector and increase private and foreign participation in the sector. The state governments were expected to follow suit and amend their respective state laws to adapt to the Model APMC Act. Reforms under the new Act are being undertaken to remove lacunae from the system. The state of Maharashtra has also adopted the Model APMC Act in 2005 and is undertaking numerous reforms to remove the limitations of the agricultural marketing sector. A deep understanding of the sector will help to formulate and implement policies and ensure that the benefits of these policies reach the largest number of people in the agricultural sector.

A supply chain has been described as a system whose constituent parts include material suppliers, production facilities, distribution services and customers linked together via the feed-forward flow of materials and the feedback flow of information. The agricultural supply chain is a complex network of enterprises of varying sizes and activities. It includes the farmers (producers), aggregators at village level, commission agents (Kutcha Arhatiya), traders, buyers/wholesalers/exporters (Pakka Arhatiya), processors, marketing organisations including agricultural produce marketing committees, where commodities’ buying-selling process is carried out through open auction process, agriculture marketing co-operatives viz. NAFED, MSAMB etc. and distributors (wholesalers, retailers etc.). The agribusiness sector is becoming an interconnected system with a large variety of complex relationships, reflected in the market place by the formation of Agri Supply Chain Networks (ASCNs) via alliances, horizontal and vertical cooperation, forward and backward integration in the supply chain and continuous innovation. The old supply chain for agricultural products: Farmer – consolidator/ aggregator – commission agent – trader – wholesaler – retailer – consumer. This agricultural supply chain suffers from considerable inefficiency. The new supply chain is smaller: farmer- wholesaler – retailer

–consumer. The wholesaler and retailer may be the same agency. Both these formats, traditional and modern coexist but the share of modern supply chain is very limited. Traditional supply chain still accounts for a significant proportion of the markets. The present Supply chain in F&V sector that connects the farmers to both the organized, as well as the unorganized retail, is still in a very pathetic state and highly inefficient with several intermediaries and manual handling. The result is lots of wastage as much as nearly 30% and also less remuneration for the farmers (Viswanadham, 2007).

The model APMC Act 2003 facilitated the establishment of direct marketing channels, farmers’ cooperatives, contract farming and entry of big business retail into the agricultural supply chain. An amendment to the Companies Act, 1956 in the year 2004 triggered the formation of a number of producer companies to sell agricultural produce. Many large corporates like Reliance Ltd, Tata, Mahindra and Mahindra ltd, Birla Company etc. entered the agricultural marketing space in the 2000s. Government owned agency Mother Dairy Development Board Ltd started the Safal stores which retailed vegetables and fruits. In many states farmers markets were set up like Rythu Bazars in Andhra Pradesh, HOPCOMs in Karnataka, Apni Mandis in Punjab and Shetkari Bazars in Maharashatra. In the year 2000, ITC ltd started the e-choupal initiative which disseminates information to farmers through internet based kiosks in villages. These farmers are then offered the opportunity to sell their produce to ITC or in other competitive markets. Tatas, Mahindras and others set up rural malls which would offer all consumer products to rural population along with financial services, insurance products as well as farming equipment to farmers. The study comes against the background of the claims of corporate India about the positive impact that corporate initiatives have had on the farm sector e.g. the e-choupal initiative of ITC Ltd and the TATA Kisan Sagars to name a few. Other corporates entered into organised retailing of fresh farm produce like Reliance Fresh Outlets or Spencer’s retail chain. These firms faced huge resistance from the small retailers and agents. These firms had to shut operations in some states such as UP and Orissa. Recent reports in the media detailing the protests against the entry of big business firms in retailing agricultural products, suggest that there is a real possibility of adverse consequences such as loss of livelihoods of millions of intermediaries and creation of monopolies in agricultural marketing. This has raised public interest and concern in this subject and there are important policy implications.

3. Significance of Study:
There is a growing debate regarding the restrictiveness and relevance of the APMC Act. Prima facie the APMC act seems to have encouraged monopolies of intermediaries resulting in distortion in price discovery of agricultural produce. This adversely affects the interests of farmers who are forced to remain in the system due to lack of alternatives. Therefore the study aims at understanding the context of this change in the agricultural supply chain and the long run implications of the changes. P S Vijayshankar, Mekhala Krishnamurthy, 2012, have edited some papers which state that a new generation of theoretically-grounded empirical research is urgently needed to make sense of these rapidly changing agricultural markets and their linkages. The present study is an effort at bridging this gap partially by identifying the emerging modes of marketing and their potential impact on the stakeholders’ in agricultural marketing sector of Maharashtra.

It is an attempt to provide an understanding of the changes in the supply chain from the point of view of the farmers and retailers. The study is relevant in the context of the continuing reforms and the transformation of the agricultural marketing sector in Maharashtra. The impact of these reform measures are as yet to unfold completely. The corporate sector is willing to set up and scale up organised retailing, while the traders and commission agents are agitating against the dilution of the ambit of APMC Act. Vegetable farmers are protesting for minimum support prices while local unorganized retailers are losing livelihoods. In this scenario, the study will deepen the understanding of stakeholders’ perspectives and may yield some direction for policy making in future. The study may reveal certain new aspects regarding supply chains. These aspects may be considered in policy matters related to the retail sector in India.

4. Scope of the study:

The present study is an analysis of agricultural marketing reforms both at the Center and in Maharashtra. The study focuses on the Model APMC Act enacted by the government of India in 2003 and subsequently adopted by state of Maharashtra in 2005. This Act tries to bring reforms in Agricultural marketing sector to integrate the sector into the globalized economy and to increase the pace of the lagging agricultural sector in general. Since 2007, it has resulted in contract farming and direct marketing arrangements, public private partnerships and farmers’ associations. These reforms will have an impact on the long established regulated markets, market intermediaries and functionaries as well as farmers. The study aims at understanding the changing nature of the supply chain due to changing
legal framework of agricultural marketing sector. The study also analyses how the reforms have an impact on the stakeholders like farmers, intermediaries, APMCs and retailers.

Maharashtra is one of the leading states which adopted the Model APMC Act in 2005 and has reformed its agricultural marketing sector considerably. State of Maharashtra has been selected by Niti Ayog as the most farmer friendly. Niti Ayog announced the Agricultural Marketing and Farmer Friendly Reforms Index in November 2016, on which Maharashtra got a score of 81.7 followed by Gujarat. The geographical scope of the study is Pune district in Maharashtra with some inputs from the Mumbai APMC market. In Maharashtra, total agricultural area of 20 million hectares is distributed among more than 12 million farm holdings in the state.16 The State Government, taking advantage of various schemes of Central Government, has made substantial progress in developing infrastructure for agricultural marketing in the state in partnership with the private sector agencies particularly in Pune District. Pune with more than 1 million hectare area under cultivation makes vital contribution to the agriculture sector of the State17. Maharashtra is one of the significant vegetable producing states in India. Within Maharashtra the Pune district is a forerunner in changes in vegetable supply chain and general reforms in agricultural markets. Farmers from Pune district have been growing vegetables traditionally. Recently they have also started new initiatives to farm exotic vegetables to cater to the changing demand from households and commercial food retailers. This move is expected to increase incomes for farmers and to assure continued markets for vegetables based on new demand.

Two of the largest APMCs in the country are in Maharashtra, viz; Vashi APMC, Mumbai and Gultekdi market yard, Pune. Besides permitting direct marketing arrangements and contract farming the state has also delisted Fruits and Vegetables from the ambit of APMC markets. Numerous licenses have been issued to firms for setting up private market yards. The enactment of model act was followed by many regulatory changes. Organised retailers such as Foodworld, Star Bazaar, Hypercity, Reliance Fresh, More stores, Food Bazaar, DMart etc have been operating across all major cities of the state since early 2000s and there have been no significant protests as was seen in other states.

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16 http://www.prshindia.org/parliamenttrack/state-budgets/maharashtra-budget-analysis-16-17-4233/
This study focuses on the Pune district and the vegetable supply chain. Most of the farmers producing vegetables are small and marginal farmers. They are the ones who are exploited in the traditional supply chains as well as regulated markets. Therefore they are most in need of effective reforms in the marketing system, to increase their incomes. Pune district farmers are progressive and have adopted some modern methods of marketing. The western part of the district, particularly, Sahyadri range is well known for medicinal & aromatic plants. Vegetable pockets are well developed surrounding the tahsils of the Pune district especially in Junnar, Mulashi, Baramati, Saswad and Indapur areas. The Pune market is situated at Gultekdi in Bibwewadi in Pune district. It is the fourth largest market in India, in terms of revenue. The total no. of functionaries in the market are 7421. The time period of reforms considered by the researcher here is 10 years from 2006-2016. The model APMC Act enacted in 2005 initiated the reforms in this sector in Maharashtra and since then the government has announced small and big policy decisions which have had an impact on the sector. From the survey it is observed that reforms have been generating changes in the markets but at a painfully slow pace. Private investment which was expected to flow through direct marketing, contract farming, organised retail and private market yards is very limited. Licenses have been issued but the actual operations have not begun or the scale of operation is miniscule.

5. Conceptual framework of Study:

The agriculture sector is entwined in regulation, a living legacy of the era of socialism. While progress has been made in the last two years, producers in many states are still required by the Agricultural Produce Marketing Act to sell only to specified middlemen in authorized markets (mandis). As observed in the Economic Survey of India 2015-16, market segmentation is a crucial issue faced by this sector. Market segmentation reduces overall welfare because it prevents gains through competition, efficient resource allocation, specialization in subsectors and fewer intermediaries. The causes of market segmentation are many – differences in remoteness and connectivity (rural roads), local market power of intermediaries, degree of private sector competition, propensity of regional exposure to shocks, local storage capacity, mandi infrastructure and farmers access to them, storage life of the crop and crop specific processing cost. Market segmentation results in large differences in producer and consumer prices. Price dispersion for prices received by farmers is measured as the ratio between the highest (P95) and the lowest (P5) price of the crop in a country, i.e. if this ratio were to be equal to one, it would imply that there is no price dispersion, and that there is one common market. It appears
that the perishability of a product is an important factor driving the wedges. The analysis (for 2014) finds higher markups in perishables such as onions than in cereals and pulses. Segmentation also creates a “wedge” at various points in the supply chain from the farm-gate to the final consumer in India. All Agricultural sector reforms, especially marketing reforms should aim at reducing this market segmentation.

The utility of APMC acts in a neo liberal trade regime is questionable. APMC yards have seen instances where traders have come to control the markets making them restrictive. Price discovery is non-transparent and often unfavourable to farmers. There is wide diversity in the operations of APMCs across states. Neo-liberal policies of the governments both at the center and state level have resulted in new models of marketing like direct marketing through Rythu Bazars in Andhra Pradesh, or public private partnerships like Safal Mandis in Karnataka, or technology based initiatives like e-choupals of ITC ltd. in Madhya Pradesh, or farmers’ cooperatives and producer companies in Maharashtra. These models are collaborative in nature and can trigger significant increase in investment in agriculture leading to productivity gains. S.Sivakumar of ITC agribusiness says that APMC yards should continue to exist as an auction mechanism and compete with alternate marketing channels like direct marketing or contract farming.

In the current series (Base year 2011-12), from 2011-12 to 2016-17, the GSVA of ‘Agriculture & Allied Activities’ sector has average share of 11.8 per cent in the total GSVA and is growing at an average annual rate of 1.7 percent. The agriculture sector employed 51% of the state’s population, followed by the services. Allocations for Agriculture have increased by 8% and for the Department of Urban Development by 51.2% in 2016-17. Budgetary allocations to agricultural sector have been very poor both at the Center and the state levels. This discrepancy in the support to the sectors is causing a lag in the growth of agricultural sector which in turn affects the rest of the economy adversely. Resource allocation should be balanced in favour of agricultural sector. Public investment should play a crucial role in creating infrastructure in the sector which will further invite private participation. Additionally, public private partnerships (PPPs) might be required to play a complementary role in linking small farmers with High Value Added markets.

18 Economic Survey of Maharashtra 2016-17 pg 22.
Indian retail market is divided into “Organised Retail Market” which is valued at $60 billion which is only 9 per cent of the total sector and “Unorganised Retail Market constitutes the rest 91 per cent of the sector. Government of India has allowed 100 per cent Foreign Direct Investment (FDI) in online retail of goods and services through the automatic route, thereby providing clarity on the existing businesses of e-commerce companies operating in India. CARE expects the retail industry to register a growth rate of about 12-14% over the next 4 years and reach about USD 1,150 billion by 2020. The Indian food and grocery market is the world’s sixth largest, with retail contributing 70 per cent of the sales. Online retail is estimated to reach US$ 70 billion by 2020 from US$ 3 billion in 2014. ITC Agribusiness, Mahindra Shubhlabh, Tata Kisan Sansars etc are agribusinesses established by big corporate houses to participate in the Agricultural Sector. While, Reliance Fresh, Star Bazaar, Hypercity, Big Bazaar, DMart etc are organised retail chains started to participate in the fast growing retail industry. Food processing industry contributed 8.39 per cent of Gross Value Added in Agriculture sector in 2016-17. Online food retailing is emerging as a technology based mode of marketing. Some major players in this segment are Bigbasket.com, Grofers.com, Local banana.com, Ninjacart.com etc. These firms are operating in B-2-C and B-2-B formats with the aid of foreign investment by partner firms. These are major developments in the sector which should prompt farmers to adopt modern modes of marketing and come into the mainstream growth of the economy. The study aims at understanding the impact of Reforms on the stakeholders in agricultural marketing sector.

6. Statement of Problem:

During the last few years, Fruits & Vegetables contributed substantially to food inflation on account of increasing per capita incomes driving demand and wastage of F&Vs creating supply shortages. The studies conducted by Directorate of Marketing and Inspection (DMI) reveal that Costs and Margins account for 30 to 35 per cent of consumer’s price in foodgrains, 45 to 55 per cent in fruit and vegetables and 12 to 36 per cent in oilseed crops. In fruits and vegetables, the mark ups by the intermediaries touch about 60% of the costs

21 Overview of retail Industry report-IBEF may 2017.
22 The Report of the Working Group for XIIth Five Year Plan, pg 37
while the same is reportedly about 6 to 8% in the USA. High-mark up means low returns to the farmers as a percentage of the retail price and secondly the consumers pay a higher price.\textsuperscript{24} Krishnamurthy (2012) writes of critics who find that “instead of protecting the interest of primary producers, mandis have thrived under a politicized and restrictive regulatory framework, strengthening mercantile control and collusion, while leaving both farmers and consumers worse off on either end of a fragmented and inefficient supply chain”.\textsuperscript{23} Marketing of horticultural crops is complex especially because of perishability, seasonality and bulkiness.

Results of one study indicate that in Ahmedabad the direct contact between commission agents and farmers is very low. For vegetables this is 50 percent and for fruits only 31 percent. Further, in the system of transaction, secret bidding and simple transaction dominate and open auction is relatively rare.\textsuperscript{24} The agricultural supply chain in India has undergone significant changes since the new Model Agricultural Produce Marketing (Development and Regulation) Act was passed in 2003. A number of new modes of agricultural marketing have emerged viz. direct marketing, organized big business retail, agricultural producer companies etc. Farmers, Market Intermediaries like traders, commission agents, wholesalers etc., market functionaries and retailers both organised and unorganized are the stakeholders in agricultural marketing sector. Reforms will have short term and long term effects on these stakeholders. These effects may be adverse or positive. All stakeholders will not be uniformly affected by the reform measures.

The Report of the Working Group for XIIth Five Year Plan on agricultural marketing sector, made some very pertinent observations regarding the state of Indian agricultural marketing: Producers in rainfed regions already suffer from a serious technological and productivity gap compared to better endowed areas. Their condition is likely to deteriorate further and their isolation from the new emerging markets is almost a foregone conclusion. Hence the urgent need for solutions that mark a break from the past and significantly improve the terms of smallholder access to the market. It is clear from the available data and market behavior that small producers, especially if they happen to be women, dalits, tribals and landless labour, dalits and tribals, are among the most disadvantaged in the

\textsuperscript{23} Krishnamurthy, Mekhla (2012): “All in the Name of Farmers”, \textit{Business Line}, Opinion, 2 January.

\textsuperscript{24} Gandhi V & N. V. Namboodiri, 2009, Marketing of Fruits and Vegetables in India: A Study Covering the Ahmedabad, Chennai and Kolkata Markets
current economic scenario. However, it also a fact that the present trends offer a
tremendous opportunity to link small and disadvantaged producer groups to market
opportunities to enhance incomes and return on labour and investments.25

Typically, farmers complain a lack of market for their produce, while processors, exporters
or supermarket retailers complain of a lack of adequate supplies of quality produce. This
marketing paradox is present because often, buyers do not reach out to explore new
suppliers or farmers lack an understanding of markets as well as the ability to identify new
markets or to take advantage of such opportunity with value addition activities like
grading, cleaning, sorting, packaging and primary processing.26 Globalization, an
expanding domestic middle class and diversification of the food basket are driving
growing corporate interest in agriculture as a source for raw material for agri value chains.
The highly fragmented nature of production and low per capita surplus of small and
marginal farmers limits their ability to access the market to leverage better returns for their
produce. Corporate and other bulk buyers of agricultural commodities find the transaction
costs of dealing with a large number of small producers prohibitively high and prefer
dealing with bigger farmers and mandi aggregators.27

Farmers now have a choice between traditional and modern methods of selling their
produce. As observed by one farmer, ‘agricultural markets are traders’ markets. Traders
set the rules, determine prices and make the markets’. When Reliance Fresh started
opening stores to sell fresh agricultural produce in 2006, the pace and scale of its operations
agitated the market middlemen and local retailers. There were widespread protests which
resulted in Reliance withdrawing from the markets partially. On the other hand,
liberalization of the sector encourages organised retailing and food processing sector to
grow at a fast pace.

The study proposes to examine the extent of change in nature of agricultural marketing.
The entry of big business retail firms in this sector will have considerable impact on the

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25 The Working Group of the 12th Five Year Plan on “Agriculture Marketing Infrastructure, Secondary
Agriculture and Policy Required for Internal and External Trade”, Pg 22-26.
26 Op cit pg 9
27 The Working Group of the 12th Five Year Plan on “Agriculture Marketing Infrastructure, Secondary
Agriculture and Policy Required for Internal and External Trade”, Pg 24.
existing players’ viz. farmers, agents, traders and small retailers in the agricultural supply chain. This study proposes to analyse two possible impacts: firstly, whether the participation of big business in the supply chain will remove the limitations of the traditional supply chains and secondly, the direction and extent to which modern modes of marketing of agricultural products will influence farmers and unorganized retailers. The study will also make an effort to analyze the relevance of the APMC legislation, effect of reforms announced by the state of Maharashtra and adaptation to reforms by stakeholders in the agricultural marketing sector.

7. Objectives of the study:

The study takes into consideration the impact of agricultural marketing reforms on stakeholders in the agricultural marketing sector of the economy. These stakeholders are: farmers, commission agents, traders/wholesalers, organised retailers and local retailers. Broad objective of the study was to highlight the limitations of existing marketing systems and understand impact of liberalization on agricultural marketing sector and its stakeholders.

The specific objectives of the study are:

1. **To study the changes in legal framework of agricultural marketing in Maharashtra** - the legal changes in 2005 and subsequent reform measures introduced in the state of Maharashtra are examined. This helps us understand the government policy regarding agricultural marketing sector.

2. **To study the agricultural supply chain in vegetables and identify the limitations in existing chains** - there are numerous limitations to the existing systems. Reform measures announced by the government have transformed the agricultural marketing sector. New modes of marketing like direct marketing, farmers’ markets and online marketing have emerged.

3. **To evaluate farmers’ preferences regarding the intermediaries** - farmers now have a choice between traditional and modern modes of marketing. Their choice of intermediaries to sell their produce will determine the transition of agricultural marketing sector.

4. **To analyse the process of price discovery** - Price dispersion is very significant in traditional agricultural markets. It is yet unclear if profit oriented organised retailers will improve farmers’ remuneration for agricultural produce.
5. To examine the impact of changes in agricultural supply chain on intermediaries in agricultural markets- the Supply Chain is shorter in the new modes of marketing. This will impact the business and livelihoods of current intermediaries like wholesalers, commission agents, traders etc.

6. To suggest suitable policy recommendations.

8. Research Methodology:

Sampling Unit: The researcher has limited the study to main APMC market yards of Pune and Mumbai along with the Shetkari bazaars of Hadapsar and Manjri in Pune district. Stratified sampling method was used to select the stakeholders. Random sampling was then used to select approximately 10 percent stakeholders in each group. Further Vegetable farmers’ sample was obtained across Pune district. They were selected randomly from groups of farmers receiving training on direct marketing techniques and others who were selling their produce at the market yards of Pune APMC at Gultekdi, Hadapsar and Manjri.

Sample size: The sample size of farmers is 291. Six officials from both Pune and Mumbai APMCs were interviewed. There are about 6 different organised retailers selling vegetables in Pune city. These are Hypercity, Big Bazaar, Star bazaar, Reliance Fresh, More and DMart. Three of these stores’ managers were interviewed. 15 wholesalers in Pune APMC were interviewed and finally 28 local retailers near the APMC and organised retail stores were interviewed.

Method of Data Collection: The researcher has used personal contact, questionnaires and interview methods to collect data.

Tool of Data Collection: Researcher has developed 5 semi-structured questionnaires comprising close-ended as well as open-ended questions for the purpose of data collection. These questionnaires were answered by six stakeholder groups viz: farmers, APMC officials, commission agents, wholesalers, organised retailers and local retailers. Besides the researcher interviewed stakeholders in informal settings and in their offices.

The researcher also interviewed the manager of Abhinav Farmers’ Club, Mr. Dyaneshwar Bodke. This is an association of progressive farmers willing to experiment with newer varieties of vegetables as per market demand as well those willing to use modern methods of marketing. Farmers from Nasik and Junnar are now coming to Mumbai city on a regular
basis to sell vegetables directly to consumers. The researcher interviewed two such farmers with a mobile mini tempo converted into a vegetable stall selling directly to consumers in a residential area of the city. Responses of all these respondents are analysed.

**Sources of Data:** Two types of data are collected. Major source of information was *primary data*. The primary data was collected from all six stakeholders i.e. farmers, commission agents, wholesalers, APMC officials, organised retailers and local retailers working at APMCs Pune and Mumbai. To understand and explore the research problem, to build the theoretical framework, various *secondary data* sources were used. This includes research journals, magazines, books, websites, research report, news papers etc. Questionnaire for primary data tries to understand the farmers’ perspectives on time period of reforms, new intermediaries in the market, new modes of marketing, preferred modes of marketing of farmers, shortcomings of APMC markets and benefits of organized retailing of vegetables. The farmers were also interviewed regarding their disappointment with the current system and the need for new systems and liberalization of agricultural markets.


**Data Analysis and Presentation:** Data analysis began with preliminary check of all questionnaires for its completeness. The researcher examined the filled up questionnaire, detected errors, omitted half-filled and unqualified questionnaires and corrected errors wherever possible. Then numerical codes have been assigned to represent a specific response to a specific question. After this, the data were tabulated, i.e. arranged in a logical manner in columns and rows for further analysis. Cross tabulation of data was done to get a deeper understanding of the impact of demographic profile of the sample and their responses. Appropriate statistical tools were applied according to the objectives of the study. This includes Frequency Distribution, Cross-Tabulation, Mean, Standard Deviation and Pearson’s Chi Square Test. Mean median and mode analysis helped to support the interpretations of the frequency tables. Pearson Chi Square test was used to analyse the relation between categorical variables. The data was analysed using Statistical Package for
Social Sciences version 21.0 and MS-Excel. The data is presented in neat diagrams, charts and graphs where required.

9. **Chapter scheme:**

The dissertation for the thesis will consist of seven chapters:

**Chapter 1: Introduction to the Study:** includes the introduction of the topic, rationale of study, the related concepts, legal framework and socio economic background for the study. It also includes the research methodology of the study.

**Chapter 2: Review of Literature:** includes the review of literature on the topic. The review will highlight the recent studies if any, on the same topic; it will also include a study of some texts and journals pertaining to the topic. There is an overview of the reports of commissions and committees constituted in India to understand the agricultural sector in general and agricultural marketing in particular.

**Chapter 3: Agricultural Marketing Reforms in India:** includes a historical perspective of agricultural marketing in India and an overview of the agriculture and horticulture sectors and policies related to these sectors in India.

**Chapter 4: Agricultural Marketing in State of Maharashtra:** consists of policy changes and ensuing reforms undertaken with special emphasis on Maharashtra. It also includes the present situation in marketing sector in Maharashtra. The chapter further includes analysis of vegetable supply chain in Pune district.

**Chapter 5: Stakeholders’ perspectives on Changes in the Agricultural Supply Chain:** This chapter consists of the comparative analysis of traditional and modern supply chains. It also includes analysis of qualitative data collected from stakeholders in the agricultural marketing sector in Maharashtra.

**Chapter 6: Analysis of the impact of Agricultural marketing reforms- Farmers’ perspective:** this chapter includes the research methodology, data analysis and interpretations. It outlines the research work conducted including collection of primary data from farmers, processing, statistical analysis and interpretation of data.

**Chapter 7: Findings, Discussions, Suggestions and Conclusion:** displays the results of the research effort. It will include interpretation of data and implications of findings. This
is the concluding chapter and includes discussions, conclusions and policy recommendations if any.

10. Inferences and findings based on the five objectives of the study:

A. Findings from the primary and secondary data:

The inferences are drawn on extensive review of literature, the study of various reports of public committees and private agencies in the sector, statistics collected from official websites and handbooks of both central government and state governments and observations of the market activities by the researcher. The findings given below are based on an analysis of the farmers’ perspectives on time period of reforms, new intermediaries in the market, new modes of marketing, preferred modes of marketing of farmers, shortcomings of APMC markets and benefits of organized retailing of vegetables.

Objective 1: To study the changes in legal framework of agricultural marketing in Maharashtra.

The state of Maharashtra has regularly introduced reform measures in the agricultural marketing sector post its adoption of the Maharashtra Agricultural Produce Marketing (Regulation) Act 1963. Many amendments were made to this Act to facilitate reforms of the sector. MSAMB has conveyed its general sanction for Shetkari Bazars under clause 12(1) of Maharashtra APMC Act 1963 subject to cost below Rs.32 lakhs on 15th March 2002. In 2003, a Sub-section (3) was added by Mah. 11 of 2003, ‘Every Market Committee shall reserve sufficient space in the market area of its principal and subsidiary markets for the agriculturists to enable them to sell their own agricultural produce directly to the consumers without the help of intermediaries and shall also look after the maintenance of such space’. The central government has issued an order under section 3 of Essential Commodities Act called as Removal of (licensing requirements, stock limits and movement restrictions) on Specified Foodstuffs Order 2002 and removed 11 items from the list of Essential Commodities to remove barriers to interstate trade. An amendment to Companies Act 1955, in 2004, on the recommendation of the Y.K.Alagh committee resulted in formation of Farmer Producer Companies. Currently Maharashtra has 250 farmer producer companies engaged in marketing domestically and internationally. In 2005 the State of Maharashtra adopted the Model APMC Act by the name The
Maharashtra Agricultural Produce Marketing (Regulation) Act 2005. The adoption of Model APMC Act has led to emergence of variety of marketing modes viz; private market yards, organised retailers, supermarket procurement, like Reliance Fresh, Spencers’ retail, Star bazaar etc., farmers’ associations and cooperatives marketing societies, online marketing and contract farming.

In 2014, Maharashtra government has appointed board of administrators for 170 erring APMCs. It plans to establish a permanent board of administrators for all APMCs to make them effective and competitive. The Maharashtra Agricultural Produce Marketing (Development & Regulation) Act, 2005 was further amended recently in 2016, by an Ordinance to deregulate trade in fruits and vegetables and to keep this agricultural produce outside the ambit of APMC. The levies imposed on agricultural produce marketing within the premises of the APMC yards would no longer be applicable to farmers who chose to sell their produce to traders and firms outside APMC premises. Also the arhat charged earlier to the farmers would now have to be recovered from the buyers of the goods viz; wholesalers, firms, retailers etc. With the latest amendment to the APMC Act, state of Maharashtra is empowering farmers to market produce directly.

APMC markets are active and functioning even after 10 years of introducing reforms. This is an indicator of the significance of this agency and the need to improvise on its functioning to make it a competitive force in the agricultural marketing sector. Government reforms to increase private participation and organised retailing are not sufficient. Laws are in place but they are not implemented in the right direction. Legal changes need further streamlining. Contract farming laws have to be refined. Licenses have been issued but actual operations of private yards or direct marketing firms are very limited.

Farmers’ perspectives were taken on the awareness of reforms, the time period of reforms and the freedom to adopt methods of marketing:

1. 1/3rd of the respondents experienced the changes since the implementation of the Model APMC Act in Maharashtra in 2006. Alternatively practically half the respondents saw the changes only in the last five years. This can be attributed to the slow pace of reforms and the corresponding inability of the private sector and farmers alike to respond to legal changes and establish parallel markets to APMC market yards, in the sector. It can also be inferred that government programmes to disseminate information regarding reforms had
very limited outreach in the initial period of reforms. Market displays alone only 
disseminate information on prices and market arrivals

2. Maximum number of respondents (88.7%), felt complete freedom in using alternative 
methods of marketing. This implies that agricultural marketing sector was not restrictive 
in Maharashtra, since the implementation of reforms. Farmers have a choice between 
traditional and modern methods of marketing, they can make freely.

3. Thus APMCs are the only option for such farmers who may be restricted by their credit 
needs and unawareness. Lack of easy credit availability from formal finance institutions 
leads farmers to depend on Commission agents for credit and consequently to sell their 
produce only to those commission agents.

4. Only 16.7% of farmers in the 15-20 years of experience range felt that they were free to 
choose their marketing channel. This can be attributed to their unawareness regarding new 
modes of marketing or their inability to comprehend and adapt to the new modes as well 
as habit of relying on traditional methods.

5. 65.6% of respondents were aware of the changes made by the government in agricultural 
marketing. This indicates that awareness of reforms is widespread but not yet complete. 
As per the age wise analysis of awareness regarding reforms, it is observed that a larger 
proportion of unaware respondents belong to higher age groups beyond the age of 40. This 
implies that the older the farmer is, there is less of an initiative to obtain information and 
utilize it.

**Objective 2:** To highlight the limitations of traditional systems of marketing and identify 
changes in the agricultural supply chain in vegetables.

**The APMC market yards suffer certain limitations:** Mainly large farmers with political 
connections are appointed to the Agricultural Produce Marketing Committees. Until 
recently in Maharashtra, the Congress- Nationalist Congress Party combine had a 
stronghold on majority of the 305 APMCs in the state.

1. Absentee farmers from agricultural markets are one of the reasons for the unhealthy nexus 
between traders, commission agents, wholesalers and APMC officials. Sometimes 
commission agents, wholesalers, retailers and market committees may form a nexus and 
exploit farmers. This exploitation is in the form of monopsonistic trade practice by these 
groups and depressed price discovery. Instances of farmers preferring to destroy their crop,
rather than bear monetary and physical effort of selling at the market yard are not unheard of. In January 2017, Tomato producing farmers destroyed their own crops as the marketing cost of tomatoes was Rs.0.75 per kg and the wholesale price of tomatoes fell to Rs 0.50/- per kg, in the Pune APMC market. These groups work to the disadvantage of farmers and siphon off majority of the turnover generated in the market.

2. Under-invoicing of produce is a common phenomenon at the market as commission agents would prefer to record lower volume of produce.

3. Manual transfers, jute/gunny bag packaging, Multiple handling of produce and long waiting period for the auctions all reduced the weight and quality of produce. This creates a lot of wastage of vegetables leading to huge losses to farmers.

4. The open auction system is not followed in vegetable markets. Commission agents who are market makers believe that open auctions will only work against farmers’ interests as this system of auction will reveal all bidders’ prices. This will lead to depressed prices in the markets.

These and many more limitations have created inefficient markets which adversely affect the interests of farmers, small traders and small market functionaries. To overcome limitations of the traditional systems the Model APMC Act was implemented. This Act influenced the supply chain for vegetables significantly.

Traditionally farmers of Maharashtra have been selling their produce in local bazaars and mandis, to village aggregators and in regulated markets of APMCs through commission agents. In recent times there has been a movement towards use of direct marketing methods by farmers in the agricultural marketing sector of Maharashtra state. Mr. Dyaneswar Bodke of Abhinav Farmers’ Club said that there are many alternatives like supermarket procurement, eateries, offices and housing societies etc. to market vegetables directly and farmers are becoming aware of these methods. Hence, it indicates that direct marketing methods are becoming popular but at a slow pace. Private market yards are set up albeit few, farmers’ cooperative markets are set up, online marketing; direct door to door sales by farmers etc. All of these direct marketing techniques may help overcome the limitations of APMC yards. The primary survey of farmers’ use of marketing methods revealed the following:
There is a changing trend towards the use of direct marketing away from APMC market yards. But 55.7% of the produce reaches APMC markets, either directly or through traders. This highlights the role that regulated markets play in agricultural marketing sector post reforms.

The supply chain is now shortening. Gradually many other modes of agricultural marketing have emerged leading to a change in the supply chain corresponding to each mode. For eg; Contract farming supply chain: contracting firm (food processor)- farmer- firm- consumer; Supermarket procurement: farmer- supermarket( organized retailer)- consumer; shetkari bazaar supply chain: farmer- consumer; private market yards: farmer- wholesale trader- retailer- consumer. Under the new Act, in Maharashtra, 236 direct marketing licenses have been issued of which 128 are functional. Apart from this 41 private market licenses have been issued of which 32 are functional. NCDEX is operating over the internet. Major Players in Indian Organized Food Retailing are: Big Bazaar (Hyper Market) Star Bazaar (hyper market chain), Reliance Group’s, Reliance Fresh (neighborhood store) Reliance Smart (super market), Reliance super (mini mart). Some of these organizations have set up a centralised warehouses integrated with the cold chain facilities.

The following changes have occurred since the implementation of this Act in 2007:

1. New modes of marketing have emerged. Besides APMCs, there are now super market procurements, food processors, commodity traders, online marketeers, eateries and household consumers who buy directly from farmers. Shetkari bazaars, athavda bazaars and farmers cooperatives have emerged.
2. 170 farmers' associations from Kalewadi in Junnar taluka were permitted to start direct
marketing in Fruits and Vegetable Department, Gultekdi, Marketyard from 13 September
2009. It is getting a lot of response from ordinary customers. Every day, 1 MT of
agricultural produce is sold through these sales centers.

3. Big business organised retailers, food processors and supermarket chains have entered the
sector either using value chain models or hub and spoke models to generate backward
linkages with famers and create efficient supply chains. Some of these firms are: Mother
Dairy Development Board ltd. Established in 1988 started the brand Safal F&Vs and is
associated with 93 small-holder grower associations, ITC ltd. entered agri-business in
2000 and initiated the e-choupal scheme and later the Choupal Fresh stores. It is associated
with 4 mn farmers. Tata Industries set up Tata Kisan Sansars in 2004 and is associated
with 2.3mn farmers, Reliance Industries entered the food retailing business in 2006 and
has set up retail stores, Reliance Fresh and Reliance Smart 2 mn farmers, Mahindra
Agribusiness entered agri business in 2011, established the brand Saboro and is associated
with 1.8mn farmers.

4. New public sector institutions have also been set up to encourage direct marketing of farm
produce: Rythu Bazaar- Andhra Pradesh, Apni Mandis- Punjab, Shetkari Bazaars-
Maharashtra, Uzhavar Sandhai- Tamil Nadu, Krushak Bazars- Orissa. All these are
farmers’ markets where individual farmers or farmers’ cooperatives sell their produce
directly to consumers or retailers. Hadapsar market in Pune was one of the first markets
set up by Pune APMC with no commission agents and permitted direct sales by farmers.

5. Many online trading firms have started retailing vegetables online: BigBasket.com,
Grofers.com, localbanaya.com, AramShop.com, Atmydoorstep.com, MyGrahak.com,
ZopNow.com etc. are some of the online retailing firms.

6. The supply chain for vegetables was expected to become shorter as farmers were allowed
to sell directly to end consumers or to intermediate firms like food processing firms. But
organised retailers, food processors and supermarkets prefer to procure the produce from
the APMC markets most of the time as it is very cumbersome to secure produce from
farmers who are dispersed across a wide area. Secondly their requirement for vegetables
is still very limited and vendors or traders provide them the produce at reasonable rates.

Farmers’ perspectives were taken on limitations of the market, modes of marketing
adopted and changes in supply chain due to reforms:
1. Farmers are generally absent from the market. The waiting period for selling the produce was usually one night and one day, hence farmers find it very inconvenient to visit the APMC market yards personally. They depend on aggregators or transporters to take their produce to the farm and sell it and bring back the remuneration.

2. Traders are still the most used agents for sale of produce. Traders then sell the produce at the APMC market yards. Hence we infer that 55.7% of the sample of respondents continue to depend on the APMC commission agents to sell their produce. This indicates that farmers are still using traditional modes of marketing to a great extent. 30.2% of respondents use direct marketing methods. These methods have become available only since the implementation of the Model APMC Act in 2006.

3. Data shows that majority of the farmers were aware of food processing firms followed by private market yards. Organised retailers and farmers’ cooperatives were equally known to farmers. While contract farming was relatively unknown.

4. 33% say that they use private market yards to sell their produce while 29.16% respondents said that they sell their produce to organised retailers. As observed by some farmers, most of the respondents are marginal and small farmers, hence they may not have been approached by any firms for contract farming.

5. The supply chain now seems to integrate both traditional and modern elements. For eg; APMC’s commission agents selling to big businesses or food processors and local unorganized retailers sourcing produce from Shetkari bazaars. Majority of respondents have observed that commodity brokers were the largest group of newer intermediaries present in the market followed by organised retailers.

6. An important aspect of the study was the need to analyse impact of reforms on the marketing sector in general and on the attributes of the supply chain in particular. The processes in marketing have changed since the implementation of reforms. The respondents were asked to rank the impact of changes resulting from the reform measures introduced in the market. List of changes given for ranking was: less time consumption, assured markets, lesser intermediaries, lower costs, better price discovery and less wastage. Assured markets was ranked first and selected as the best impact of reforms. The next best impact was lesser time consumption followed by lesser intermediaries and lower costs. Less wastage and better prices were relatively less impactful changes. Reforms do not seem to have addressed these required changes adequately.
7. Lesser transaction time is a particularly necessary impact for perishables like fruits and vegetables. There will be an increase in prices offered as quality will be preserved. Lesser intermediaries will reduce handling, leading to better quality of produce in the forward linkage while also increasing the share of the farmer in the consumer rupee in the backward linkage of the supply chain.

8. From the mean median mode analysis we can infer the expectation of the respondents from the reforms and consequent changes in vegetable supply chain. The less experienced farmers prefer quick and easy transactions therefore time saving marketing modes are an important change to them. The more experienced selected better price discovery as the best impact. Hence we can infer that new intermediaries and changing rules in the markets have started yielding better prices to farmers than the monopsonistic APMC market yards.

9. Across all experience groups too, assured markets is selected as the change with the best impact in agricultural markets. The more experienced the farmers, larger percentage ranked assured markets as the best impact. This implied that uncertainty of markets was a crucial issue faced by farmers in traditional systems of marketing.

**Objective 3:** To evaluate farmers’ preferences regarding the intermediaries.

Farmers reveal their preferences for particular intermediaries through their choice of marketing systems. Most farmers reveal a preference for traders to sell their produce to. Trading firms play a dual role for farmers. They are bankers/ lenders as well as assured markets for farm produce. These firms or commission agents offer credit to farmers in the pre-harvest stage and also assure them to collect or aggregate their produce in the postharvest period. Financially excluded farmers have to depend on these traders and hence continue in the traditional marketing systems. Suresh Jadhav of Nere Village, Pune and many others in the group felt that market intermediaries in the traditional markets like traders and commission agents are very integral to the marketing process as they offer farmers credit, collect the produce from the farms in bulk, grade and auction the produce and transfer payments to farmers within the a day or two. The convenience of this method of trading is not available to farmers in the new emerging systems. There is some hesitance to leave the traditional system and cope with the new system. Farmers are comfortable with the traditional systems and wary of using modern methods of marketing. Consequently only a small percentage of farmers are actually using direct methods of marketing or working with organised retailers. As stated by Mohan Oskar of Ridde village of Hinjewadi district, he has availed of a pre harvest loan of Rs. 25000 from a commission
agent at Gultekdi market, hence he has to send his produce to the market to pay off the loan. Another farmer Tukaram Shitole from Nere village of Mulshi taluka of Pune also feels restricted as he is unaware of the recent changes that are taking place in agricultural marketing.

Farmers are unable to market their own produce. Retailers and wholesalers have occupied the weekly bazaars meant for farmers or the mobile marketing space that farmers were supposed to take advantage of to directly sell produce to consumers. There is a need for government or cooperative agencies in marketing. Ms. Radhabai Shelke from Maan village spoke for many women farmers when she observed that modern methods of marketing would require the farmers to access markets physically on a daily basis which is practically impossible for farmers in general and women in particular. Literate farmers have started experimenting with alternative, modern modes of marketing, but the larger uneducated mass of farming community requires to be integrated through use of extension programmes. An employee of Tata-Tesco (Star Bazaar), Mr. Yogesh Kedari pointed out that Farmers from Narayangaon, Pune are already commercially savvy and are willing to deal directly with firms which have procurement centers at convenient locations.

The presence of new intermediaries indicates the change in supply chain where traditional intermediaries are being replaced by new intermediaries. The nature of the supply chain is also changing rapidly, with newer intermediaries like organised retailers, commodity exchange brokers and commercial consumers operating on a larger scale, since liberalization of markets. Organised retailers like Reliance and Star Bazaar are now investing in creating pre cooling chambers and cold storage facilities at their procurement centers. These facilities are encouraging farmers to sell their produce to these organised retailers rather than APMC.

Farmers’ perspectives were taken on preferred modes of marketing, whether new modes of marketing were better and reasons for dependence on traditional modes:

1. Literate farmers have started experimenting with alternative, modern modes of marketing, but the larger uneducated mass of farming community requires to be integrated through use of extension programmes.
2. Farmers’ cooperatives are still very limited in their functioning. They need to be strengthened by increasing their role in direct marketing.

3. There is a need for dissemination of market information about market arrivals and prices in real time so farmers can make an informed selection of the markets in which they would prefer to sell. There is no vigilance system in place to check the malpractices of big traders and commission agents.

4. The National Commission on Agriculture in 1976, recommended that one primary market must be made available in an area with radius of 5 sq km. This recommendation has still not been achieved as the average area per APMC market yard is 491 sq kms and hence 11.3% of farmers are still dependent on village bazaars. Farmers from villages which are very far from APMC market yards find transport costs very high and unfeasible for small quantities of produce that they produce and sell. These factors restrict the choice of marketing methods for farmers.

5. 80.8% of respondents consider the APMC operations as restrictive and non-competitive. Reconciliation with the working of APMCs is another explanation of why more experienced people are satisfied with the APMC operations. Newer entrants in the market i.e. farmers with lesser experience are disgruntled with the functioning of APMC markets.

6. 33% of the respondents are into direct marketing of one form or the other. As the level of education increases, the respondents use the modern and alternative forms of agricultural marketing. But the number of graduate and post graduate respondents is very limited. Therefore it indicates that very few farmers are using alternative new methods of marketing.

7. Majority of vegetable farmers feel that APMCs provide reasonable storage facilities but organised retailers provide better facilities at lesser cost. Organised retailers like Reliance and Star Bazaar are now investing in creating pre cooling chambers and cold storage facilities at their procurement centers. These facilities are encouraging farmers to sell their produce to these organised retailers rather than APMC.

**Objective 4:** To analyse the process of price discovery.

The process of price discovery differs in all systems of agricultural marketing. Traditionally, traders and commission agents play the most dominant role in determining prices. The traders determine quality of produce, grade the produce and put a price tag on the different grades of produce. Often these prices are not beneficial to the farmer. The
traditional system of hatta and dara sale continue. These systems are non-transparent and inefficient in leading to the best price discovery. Although commission agents who have been in this business for 30-40 years insist that open auction method is not favorable to farmers as it reveals what one party is willing to pay and other parties will be hesitant to raise prices higher than what one wholesaler quotes. Or there may be collusion amongst wholesalers to depress prices. So they continue to use the traditional system of undercover auctions. The auction process is not transparent and fair. Ever since wholesalers are expected to pay the arhat, commission agents are in favour of wholesalers, leading to depressed prices.

The APMC officials record lower inflow of produce, commission agents sell at depressed prices and wholesalers buy unrecorded vegetables at lower costs also saving on market charges. All this leads to farmers being exploited by this nexus. In Mumbai and Pune main APMC markets these traditional practices persist. While in the Hadapsar market on the other hand, farmers sell their produce directly therefore it has a more open process of price discovery. The following chart shows a comparison of prices of nine important vegetables in the three markets, Pune, Hadapsar and Mumbai.

**Chart 2: Comparative vegetable prices across three markets:**

![COMPARATIVE VEGETABLE PRICES](chart.png)

This data analysis reveals that prices for most vegetables in Hadapsar market is more than Mumbai and Pune main APMC market yards. In Hadapsar market there is direct marketing by farmers. Average prices per quintal, over one week, for 05 out of nine vegetables are higher in Hadapsar market, prices for two vegetables are similar and prices of only two vegetables were lower than the other two markets. This indicates that direct marketing
does yield better prices for majority of vegetables. But Primary data revealed that less wastage and better prices were relatively less impactful changes resulting from reform measures. Reforms do not seem to have addressed these required changes adequately to the satisfaction of farmers.

Although direct marketing is more convenient, as of now it may not necessarily ensure higher returns. Respondents in the survey felt that the role of commission agents to fetch higher prices through auctions cannot be denied. We cannot say that direct marketing definitely leads to higher income for farmers. Organised retailers are also procuring from the APMC markets so no competitive increase in prices for farmers. Organised retailers are procuring very limited proportion of produce from farmers directly. The majority of their procurement is from vendors or commission agents. Commission agents procure the produce from farmers at very low prices. This limits flow of funds and benefits to farmers.

Farmers' perspectives were taken on the auction system of APMC, the prices offered by organised retailers and ranking of better price discovery as an impact of reform:

1. The auction process is not transparent and fair. Ever since wholesalers are expected to pay the arhat, commission agents are in favour of wholesalers, leading to depressed prices. Organised retailers are also procuring from the APMC markets so no competitive increase in prices for farmers.

2. 92.5% of total respondents either agree or strongly agree that APMC auction method is not conducive to objective price discovery. An overwhelming majority of respondents feel that APMC system restricts objective price discovery. The open auction system is practically absent in the vegetables and other perishables markets.

3. 95.8% of total respondents agree that number of intermediaries restrict objective price discovery and returns to farmers. Long supply chains in the traditional marketing methods erode the share of farmers in consumer rupee. Respondents across all income groups strongly agree to this statement.

4. Better price discovery was ranked very low in the Likert scale for impact of reforms. Hence it is an insignificant impact of reforms on the market. The organised retailers most times prefer to buy from APMCs and even vendors who supply to these organised retailers or processing firms are wholesalers who procure produce from the APMCs and supply it
further. The number of farmers’ cooperatives and farmers selling directly is still low. Hence even in the new systems farmers have not gained from yield of higher prices.

5. Once organised retailers have procured the grade A produce from traders, they reject the remaining stock. This stock is later sold at Village mandis or APMC markets at distress prices. This action of traders increases supply at APMC markets and depresses prices further for the rest of the farmers’ produce.

6. A large majority of respondents preferring APMC markets suffered from lower income generation. Respondents ranked direct marketing first, followed by village mandis, followed by traders and last was the APMC market yard. The methods of marketing actually used by farmers and method they give preference to, are different. Observations based on mean, median, mode analysis for alternate marketing systems also indicate that direct marketing is ranked first, village mandis are ranked second, traders are ranked third and APMCs are the last.

7. Less educated respondents believe that organised retailers paid more than APMC auctions yielded. But graduates were largely neutral between these two systems. This indicates that organised retailers may not yet have become significantly profitable for farmers.

**Objective 5:** To examine the impact of changes in agricultural supply chain on intermediaries in agricultural markets.

Primary data reveals that farmers have to deal with three basic intermediaries viz; aggregators, commission agents and traders on an average. Wholesalers and retailers come in the picture at a later stage. Trading firms and commission agents are still the market makers in APMC market yards and APMC markets are the benchmark markets in the agricultural marketing sector. As long as APMC markets’ role does not diminish considerably, there will be hardly any impact on the intermediaries. Yet the strikes by traders and commission agents after the announcement of delisting of fruits and vegetables in Maharashtra, are a pointer to the discomfort that traders face now and the possible loss of role that they foresee.

Arhatiyas also play the role of market making by providing credit to farmers and sometimes to wholesalers too. This important finance function of the agent cannot be easily replaced as most of the transactions are on the basis of long established trade
relations. Market Intermediaries are losing business. From the reforms small farmers, small traders, small wholesalers lose business and finally small local retailers lose business. This is a gradual process but may lead to substantial loss of livelihoods in the long term. Actual gains are going to big farmers and big business retailers. Impact of organised retailers is very limited. Only 3-4% of trade in vegetables is taking place through organised retailers. Till there are changes in the buying capacity of consumers leading to lifestyle changes as well as a change in the mind-set of consumers regarding use of organised retailers, the proportion of organised retailing of vegetables will not increase. Further, vegetables are price inelastic although there is relative elasticity with regard to income. Government efforts to increase incomes of consumers are very limited.

Organised retailers use the hub and spoke model of retailing. Most retailers depend on vendors or wholesalers to sell them the required produce. Thus the role of wholesalers is actually increasing. Organized retailers at times have appointed vendors who buy the produce for them from the commission agents. As pointed by Jayesh Patil of Big Bazaar retail store they procure vegetables like leafy vegetables, which are required in smaller quantities, from APMC directly. This also increases business for traders and increases trades at the APMC market yards.

**Figure 2:** Hub and spoke model of vegetable retailing\(^{28}\).

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This is the new hub and spoke model adopted by organised retailers for vegetable retailing. It is seen that the organised retailers have set up procurement centres closer to the farmers to directly procure vegetables. For eg; Star Bazaar, Big Bazaar and Reliance Fresh have set up procurement centers at Narayangaon, Pune which is known for its vegetable production. Alternately it is observed that agents and wholesalers also supply to the hub set up by these retailers. Other retailers adopt the Value Chain Model of retailing. Organised retailers who adopt VCM procure the produces directly, from farmers and sell to customers by avoiding intermediaries. The farmers benefit from this mode as they do not have to process vegetables or pay Arhat and they also save on the transport costs to the market yard. A study by Dastagiri(2009)\textsuperscript{29}, concludes that, the marketing model adopted by private markets particularly Reliance and Subhiksha is more efficient than government markets like Rythu bazaar. As per a study by Pattnaik et al(2015)\textsuperscript{30}, due to the circumstances prevailing in UP, West Bengal and Odisha, it was mentioned that, Reliance Retail is moving out of stocking vegetables and fruits. Reliance Retail has decided to minimize its exposure in the fruit and vegetable business. Though Reliance Fresh is not exiting the fruit and vegetable business altogether, it has decided not to compete with local vendors partly due to political reasons, and partly due to its inability to create a robust supply chain. This may break the backward linkages between retailer and farmers. Other retailing chains may also become wary of entering the organised food retailing sector. These protests have slowed down the growth of pure fresh produce retailing considerably in India.

Farmers and consumers now have a variety of alternative marketing modes to rely on. It can be observed that the livelihood of local retailers is definitely under duress, from the onslaught of these alternative arrangements of vegetable marketing. Some local retailers like Shyamrao Jagtap claim that the sellers in Athavda Bazars and Mobile Vans are not real farmers. They are retailers who procure the lower grade produce from wholesale

\textsuperscript{29} M.B. Dastagiri, B. Ganesh Kumar, Diana S.(2009), Innovative Models in Horticulture Marketing in India, National Centre for Agricultural Economics and Policy Research, New Delhi – 110 012

markets and sell at low prices under the protection of government schemes. These retailers do not have to pay any market charges or rents etc. Competition then becomes unfair. Regular wholesale traders were preferred by retailers as supply was assured and cleaned, graded produce was available at most times. Those retailers, the researcher interviewed, agreed that the organized retail business in vegetables has affected them adversely. They roughly estimate their loss in business by 20%-50% due to these big stores and mobile retailing taking place in cities.

Farmers’ perspectives were taken on number of intermediaries, the presence of new intermediaries:

1. The number of intermediaries in markets has not reduced much since reforms. Farmers still have to deal with 3-4 intermediaries on an average in APMC markets. Presence of lesser intermediaries is only a moderate impact of reforms.

2. 44.3% of respondents have identified new intermediaries as organised retailers. These are more prevalent in the perishables’ market. Commercial consumers such as, food processors or eateries are hardly noticed by respondents.

3. New intermediaries present in the market are either Commodity exchange brokers or organized retailers. Trading firms and commission agents are involved in commodity trading. Younger farmers are more willing to interact with the new intermediaries. More experienced farmers prefer to follow traditional systems and are less aware of the presence of new intermediaries. But the presence of these new intermediaries is not significant. They are unable to influence market prices or volumes in a considerable manner.

4. It is further revealed that lesser intermediaries was an intermediate impact of reforms in the market. Market reforms have not reduced the role of intermediaries very drastically.

**B. Stakeholders’ perspectives on reforms in the agricultural marketing sector:** The researcher conducted interviews of stakeholders like traders, commission agents, wholsalers, organised retailers and local unorganized retailers to understand their perspective on the agricultural marketing reforms undertaken by the government of Maharashtra. Given below are some important findings regarding these stakeholders’ perspectives on certain important issues arising out of reforms:
1. Government schemes available for Agricultural Marketing:

The MSAMB has introduced all schemes under the amended Agricultural Marketing (Development and Regulation) Act 2006. As per this Act, the State will give licenses to any farmer or cooperative agency for market development. The list of licenses is as follows: Direct Marketing License, Private Market Yard License, Farmers-Consumer market license, Single license for trade in multiple market yards as well as market yards across different districts of Maharashtra state, Special commodity markets may be set up by the APMC for onions, potatoes, oranges, bananas, jaggery, turmeric etc. and Contract farming license: the APMC will register the contract between farmers and the firms as well accept grievances if any from the parties involved in the contract. This gives farmers an assurance of resolution in case of disputes and increases their confidence to enter into contract farming arrangements.

Stakeholders like wholesalers, retailers and farmers will benefit from these schemes. The schemes are mostly directed at freeing the markets and reducing the bureaucratic procedures in APMC market yards. The government is also providing capital support and financial assistance for marketing infrastructure and forward integration of agriculture with the food processing industry.

Most wholesalers and traders are aware of the government schemes. They have observed some attempts by farmers to sell produce directly to consumers. Some of the farmer cooperatives even operate in the premises of the APMC. Traders believe that very few farmers will attempt to sell directly as marketing is a time consuming and tedious process. According to traders and officials, hardly 5 percent of farmers have started selling directly. Even the farmers’ markets have received only lukewarm response from farmers. Wholesalers on the other hand, believe that due to markets like Hadapsar and Manjri, where farmers sell directly, the trade at main market yard in Gultekdi has reduced by about 30%.

Local retailers: Most local retailers were aware of the athavda bazars where direct marketing takes place. But they were not keen on purchasing from these bazars as the markets were few. There was no assured supply of produce of the varieties that consumers demand. Many retailers were agitated about both the presence of mobile vans and athavda bazars.
2. Market charges and fees/ commissions:

**APMC Officials**: 100% of officials feel that charges paid by farmers are not excessive. APMC does not review charges. MSAMB decides and implements policy. Farmers have to pay hamali, tolai and transportation. Till recently the farmer also had to pay ARHAT of 6% to the commission agent. The Commission agent in turn would pay the market fee of 1.05% to the APMC. According to the officials these charges are not excessive. Earlier arhat was paid by the farmer, so the charges seemed excessive. But since the reform in July 2016, charges to farmers are normal. In July 2016, the Government of Maharashtra made a rule that arhat will be collected from the wholesalers by the commission agents. The arhat is now paid by the wholesalers and therefore farmers are relieved of the cost of arhat. The charges deducted from farmers’ bills receivable will now reduce. They will receive better remuneration for their produce. The APMC does not review the charges regularly. The charges are fixed by the MSAMB. The APMC is not authorized to change the market charges. It is only responsible to collect the charges and ensure smooth operations in the APMC premises. It is also responsible to settle any disputes if they arise.

**Wholesalers**: Amount - Rs.1.05/- for every Rs.100 in sales received. This is the market fee that wholesalers have to pay to the APMC. According to Haribhau Mohite a wholesaler, to some extent these charges are justified as the APMC makes available basic infrastructure facilities like water supply and electricity. Besides it also maintains the market yard premises by waste collection on a daily basis. But the arhat charged to wholesalers is leading to depressed business. It will also increase the consumer’s prices in retail markets. Recently the Maharashtra Government has issued an ordinance by which wholesalers have to pay the 6% arhat to the commission agents. This has depressed markets to some extent. Giridhar Satam a wholesaler pointed out that they were effectively paying 8% of the value of trade to commission agents in the form of arhat, market fee and levy.

**Retailers**: the researcher asked retailers if wholesale prices had increased on account of the wholesaler being made responsible to pay arhat, surprisingly the answer to this question was mostly no. It was expected that once the wholesalers were asked to pay arhat to commission agents, they would pass on this additional burden to the retailers who in turn would pass on this burden to consumers. Retail prices would be inflated in that case. But retailers have not found a significant change in prices since the announcement by Maharashtra Government. There could be two reasons for this unexpected situation. One
is that the wholesalers are unwilling to pass the burden to retailers in order to avoid loss of business. Demonetization was also announced consequent to reforms in agricultural marketing. Markets were depressed as cash transactions were severely limited due to demonetization announced by the central government. To avoid further loss of business the wholesalers have continued to bear the commission charges by themselves. Secondly, as pointed by the commission agents themselves, ever since arhat is to be paid by wholesalers, they have not been able to achieve high prices for the produce through auctions. APMC market rates itself are depressed as it has become a buyers’ market. Price fluctuations are an integral part of daily vegetable trade in the market. Hence it is difficult to gauge the exact impact of the policy. In Pune city the produce from Gultekdi Market yard is transferred to sub markets of Pimpri, Moshi, Uttannagar and other areas of the city. Retailers procure the produce either from the main market yard or from wholesalers spread across different parts of the city. Recently local retailers have started giving preference to Hadapsar market and Manjri Shetkari Bazar. This is due to the modern facilities of weighing and grading as well as the absence of commissions.

3. Number of intermediaries in the market:

APMC Officials: 100% of APMC officials observed that the number of intermediaries in the market are not excessive. APMC officials observed that intermediaries play a specific role in the market. Traders and commission agents make markets and facilitate trade between farmers and wholesalers. These wholesalers further take the produce to the retailer and finally to the consumer. The entire chain between farmer and retailer, many times operates on the basis of credit. The commission agents offer loans to farmers and also further offer credit to wholesalers. This is a very useful function of the commission agent. And without intermediaries it will be very difficult to create and make markets. Farmers are more educated and aware now. Technology and mobile phones are enabling informed sales by farmers therefore intermediaries are unable to cheat or intimidate farmers now.

Traders and wholesalers: for obvious reasons, do not believe that the number of intermediaries in the market are too many. This is their livelihood. But they do believe that the reason for increase in prices to consumers is the arbitrary pricing of produce by retailers. Also retailers do not fall in the ambit of any regulations, therefore they charge excessive prices to consumers. This reduces the farmers share in the consumer’s rupee.
Retailers: Those retailers, the researcher interviewed, agreed that the organized retail business in vegetables has affected them adversely. They roughly estimate their loss in business by 20%-50% due to these big stores. They believe that organized retailers buy large quantities of produce either from APMC yards, vendors or from farmers directly. Therefore they get discounts from suppliers and pass on this discount to consumers. They stock this produce in specific packages and plastic wrapped state. Therefore, consumers too buy the produce as it is convenient and time saving. These stores can also have their own cold storage facility for vegetables. Local retailers on the other hand have to avail the cold storage facility at an additional cost, that too if available. But retailers are skeptical of the quality of produce offered by these retailers and believe that discerning customers will always buy produce from them. Many of the local retailers have reconciled to the existence of organised big business retailers. But as of now there has been no reduction in the number of local retailers in the market. Although the long term effect will definitely be very adverse. They predict a huge loss of livelihoods not only of shop owners but of the other market functionaries like load bearers, helpers and transporters.

4. Direct sale by farmers in open markets.

APMC officials: 66.7% of officials feel that farmers should be permitted to sell vegetables outside the APMC premises while 33.3% disagree with this decision. APMC officials do not think that farmers should sell directly outside the market yards. Farmers are unable to conduct marketing activities or devote time to selling vegetables on their own. Therefore they require the expertise of intermediaries like the trader and commission agent or wholesaler to understand the market, fix prices and find buyers for the produce. Holding power of farmers is limited in vegetables as they are highly perishable. This could lead to huge distress sales or wastage for farmers. Intermediaries are thus required. Organised retailers buy very small quantities of vegetables even now. They take only A grade produce from the market. Therefore farmers are left with the lesser qualities of output to be sold in the market itself.

Further in Pune APMC, farmers are permitted to sell their produce directly to retailers or consumers from the premises of the APMC. The researcher bought some raisins (black and brown) from a retailer with a small stall in within the premises of the APMC. The retailer,
Mr. Vasantrao More, was part of a group of grape growing farmers’ association from Tasgaon taluka of Sangli district. Researcher also bought some kiwi fruit and pomegranate from another retailer. The quality was excellent and rates were reasonable relative to the retailers in Mumbai. Consumers are benefitting from direct sales in APMC market yards. The retailer informed me that the kiwi fruit was sourced from the Vashi APMC. This brings forth the fact that Pune APMC market yard is a well-established premises for sale of agricultural produce. Also products from different districts of Maharashtra state are available to consumers and retailers at one place which is easily accessible.

**Commission agents:** 100% of the agents interviewed, thought that farmers should not be permitted to sell outside the APMCs directly as such a move would not generate any real benefits to farmers. This disagreement of agents with the government’s decision to delist fruits and vegetables and permit farmers to sell their produce outside APMC premises without any charges, resulted in a shut-down of the Pune market for almost a week. Traders also do not think that farmers should sell directly outside the market premises as farmers do not have the ability and resources to sell their produce directly outside the market premises. Also the services of agents in grading and selling the produce are crucial for the farmer. Arhatiyas also play the role of market making by providing credit to farmers and sometimes to wholesalers too. This important finance function of the agent cannot be easily replaced as most of the transactions are on the basis of long established trade relations.

**Wholesalers:** 80% wholesalers feel that farmers should not be allowed to sell their produce directly outside the APMC premises. Traders also do not think that farmers should sell directly outside the market premises as farmers do not have the ability and resources to sell their produce directly outside the market premises. Further traders disapprove of the government policy of continuing market fees and arhat within APMC premise but allowing free sales outside these premises. This move creates unequal markets. Wholesalers now prefer to procure the produce from farmers’ market like Hadapsar and Manjri to avoid commissions. Further they have started selling produce to eateries, food processing firms and supermarkets as vendors. This implies that they have benefitted from the entry of these new agencies in the market who buy the produce in bulk and enable faster trading. In fact most organized retailers depend on these wholesalers to procure cleaned and graded produce.
**Local Retailers:** 44.4 percent retailers were of the opinion that farmers should be permitted to sell their produce directly in the market either to big business retailers or to consumers directly. 55.6% disagreed with this move of the government. They look at this as a policy of the government to appease the farmers. Another reason for their acceptance of this policy was that they felt that farmers could only sell small quantities of produce of limited varieties. Whereas they were able to offer a much larger variety of cleaned produce, just as consumers demanded. Further in sowing season, farmers would be unable to come to cities to sell produce. These retailers were also stocking produce from far off places like Karnataka, UP (Ferozpur potatoes) and Gujarat (bhindi). This produce would be unavailable with farmers from nearby districts such as Nasik. Supply of this produce was only possible through traders, wholesalers and retailers in the traditional set up. According to the respondents, customer relations and clean produce are the USP of these local retailers. Some respondents felt that farming community will hardly gain much from the new policies. Only small farmers, from nearby districts, with limited produce will be able to sell their produce directly to consumers from mobile vans. Large farmers from distant areas would still have to depend on the APMC traders and commission agents to sell their bulk produce in the market. Farmers who have started direct selling also have to do it in areas away from the market premises. Consumers may not approach them. Further they sell uncleansed produce at marginally different prices from local retailers therefore after a while consumers will prefer to come back to local retailers.

5. **Delisting of fruits and vegetables from the ambit of APMC:**

**APMC Officials:** 66.7% of APMC officials believe that delisting of fruits and vegetables was the right decision while 33.3% believe that it was unnecessary. APMC officials thought that delisting of fruits and vegetables from the ambit of APMC was not required for the same reason that farmers will not be able to entirely replace commission agents and traders. They will continue to depend on these intermediaries as they have done for decades. Large farmers with greater volumes of produce will need the services of intermediaries to find buyers for their produce simply because the volumes are huge and wholesalers will be available only in the market yard. Small farmers, on the other hand will need the intermediaries as they are unable to spend time searching for the wholesalers or other buyers. Farmers may save on charges such as hamali, tolai and transport costs once they start direct sales of their produce to retailers or food processors. But there will
be no security to farmers or assurance of sale on daily basis as it happens in the APMC yards. Farmers are represented in the APMC system. In private yards, set up by big business retailers or traders, there is possibility of them not being represented in the management of the yard leading them to be cheated.

According to the officials, there has been hardly any impact of the decision to delist fruits and vegetables on the Market in general or on the intermediaries. They said that transport issues are arising. Farmers are unable to transport their produce outside the market premises. The onion and potato market is affected to some extent but the vegetables market in general continues to receive 500-550 trucks of vegetables daily. Market functionaries like the hamals, graders and the transporters will be affected to some extent as the quantum of produce coming to the market yard gradually reduces. But as of now there was not much difference in the volume of trade in APMC on account of the reforms announced by the government.

**Commission Agents:** 50% of the commission agents were not in favour of delisting of fruits and vegetables from the ambit of APMC Act. They believe that farmers and market functionaries will be at a loss. Volumes of trade in the APMC are large and organized retail will not be able to replace the market intermediaries completely. Farmers are unable to sell produce on their own. Vegetables are by and large produced by small farmers who have no access to manpower to manage both production and selling. According to them trade has reduced almost 30-40% due to delisting. Farmers’ source and access to markets will diminish. Market information will not be available to farmers nor wholesalers. Farmers will be spread far and wide and accessing them will be difficult. Loss of livelihoods for market intermediaries will disrupt their lives. Further, large farmers will continue to use the services of large and well established traders or commission agents. The small agents will lose business considerably. These agents are in debt and it will be a huge setback to the agents. Markets will reduce in size and market functionaries like the hamals and graders will lose livelihoods. 60% of wholesalers felt that fruits and vegetables should not be delisted from ambit of APMC Act. Traders also do not agree with delisting of fruits and vegetables from the ambit of APMC. They believe that farmers and market functionaries will be at a loss. Wholesalers will be affected adversely if market size reduces and farmers sell directly to other agencies outside the market yards.
Retailers: Most of the respondents agreed that competition in the market has increased drastically. The local retailers are now competing with four other groups of sellers viz; farmers’ cooperatives, organised retailers, online grocery stores and vendors. This has definitely reduced business. But there is no consensus on the actual reduction in business. The range is 20 percent to 50 percent reduction in customers. Price fluctuations are more volatile since new competitors have entered the market. Price wars are started by the street vendors and carried forward by organised retailers and online stores who purchase in bulk and sell at low prices. Local retailers are unable to withstand this competition as charges paid by them limit their capacity to offer competitive prices.

6. Relevance of APMC post the Model APMC act:

APMC Officials: 100% officials believe that APMC must continue to exist. APMC officials believe that even now APMC is very relevant to agricultural marketing sector. As per their estimate, 95% of trade in vegetables is conducted through the APMC. There is an auction of produce in the market yard and farmers as well as wholesalers have faith in the system. Even big business retailers and food processing firms prefer to buy their requirements from the commission agents or wholesalers in APMC yards. The system is deep rooted now and will be very difficult to remove. All new forms of marketing will survive only if parallel changes are made in the regulated markets too. Also the officials observe that, in the weekly bazaars majority of the sellers are retailers and not farmers. According to the officials real farmers have faced issues such as cheating and theft of produce by the wholesalers and buyers in the market. Farmers are inexperienced and sometimes illiterate. Therefore they may be cheated in terms of the payments or produce by retailers and other buyers. Farmers are wary of selling the produce in the market directly.

Wholesalers: 80% of wholesalers feel that the relevance of APMC has not diminished since reforms. Traders too think that relevance of APMC has not changed much. The impact of reforms is in a very early stage as of now. 95% of the farmers are still dependent completely on markets for sale of produce. Organized retailers and processing firms are also accessing the markets for their produce rather than approaching farmers directly. Therefore the relevance of APMC has not diminished yet. In the long run the system may gradually change and direct marketing may become a preferred channel of marketing for farmers.
Organised retailers: in their interview have pointed out that there is an improvement of 10-30% in their sales of vegetables every year. This trend will continue as more households join the ranks of consumers shopping at organised retail stores. Once the share of organised retail increases in the agricultural produce markets, the role of APMC will decline. Even in case of local unorganized retailers, they have started giving preference to Hadapsar market and Manjri Shetkari Bazar. This is due to the modern facilities of weighing and grading as well as the absence of commissions in these markets.

11. Some Suggestions based on Findings of Study:

There are structural weaknesses of agricultural markets like market segmentation, price dispersion, over-regulated markets, unorganized suppliers as against organized buyers, weak holding capacity of the producers due to the perishable nature of the produce in the absence of any storage infrastructure, low levels of technology, low investment in infrastructure etc. The agriculture sector needs well-functioning markets to drive growth, employment and economic prosperity in rural areas of India. Appropriate regulatory and policy environment is necessary to attract private investment in the sector. Enabling policies need to be put in place to establish effective linkage between the farm production and the retail chain and food processing industries. The agricultural marketing sector has numerous stakeholders and any policy formation and implementation has to take into account their interests. Taking into consideration the findings of the study based on primary and secondary data and review of literature the researcher has the following suggestions to offer:

A. Suggestions for Farmers:

1. To prevent excessive supply and price fluctuations: Excess supply of agricultural produce from local and regional farmers results in depressed prices very often. Diversified cropping is another important change required to minimize market risks of farmers. To cut this risk of depressed prices, farmers should undertake multi cropping and produce different varieties of vegetables. Supply should be diversified to prevent glut of some vegetables in the market. Diversification into production of exotic vegetables is a solution.

2. Take advantage of growth in food retail and food processing industries: Food retail sector is expected to grow to Rs. 62000cr. by 2020 and food processing sector is expected to grow to US $482 bn by 2020. This has created new opportunities for direct marketing. These opportunities to market directly to relatively newer intermediaries like organised
retailers should be capitalized on by farmers’ cooperatives. In case of vegetables, individual farmers or even groups of small farmers should enter into contract farming arrangements with food processing firms. This will help to eliminate long list of intermediaries and create assured markets for farmers both, large and small.

3. **Increase participation in direct marketing of produce:** Farmers have to increase their participation in the marketing of produce. Instead of depending on traders and agents to sell their produce, farmers should either cooperate to sell in farmers’ markets or they should associate themselves with supermarkets or food processing firms through legal contracts. The older generation can focus on production aspect while the younger farmers with higher levels of education should manage marketing aspect of agricultural goods. This synergy will propel the farmers towards better returns through efficient production and marketing of produce.

4. **Marketing Mix of alternate systems:** Excessive dependence on traders has led to farmers’ exploitation. The farmers should make a marketing mix of the alternative systems that have emerged in the agricultural marketing sector. They should use a combination of two-three different methods to achieve an average remuneration higher than traditional systems yield. Alternatively they can make use of market information and track the prices at all markets and systems and select the best possible system to sell their produce.

5. **Cooperative production and marketing:** Israel is a nation known for its achievements in Agricultural sector. Most of Israel's agriculture is organized on cooperative principles, since the first decades of the 20th century. The early pioneers set up two unique forms of agricultural settlements: the kibbutz, a collective community in which the means of production are communally owned and income is equally distributed; and the moshav, a co-operative village where each family maintains its own household and works its own land, while purchasing and marketing are conducted cooperatively. In 1999 they accounted for three quarters of the total area producing crops.31 Israel’s Cooperative production and marketing may be a good example to follow. Commodity trading on exchanges has emerged as a new mode. Farmers’ cooperatives will be able to take advantage of commodity trading to obtain better prices.

6. **Farmers’ cooperatives and farmer producer companies as food processors:** The associations of farmers and farmer producer companies can start food processing units on a small scale basis on the farms itself. This would result in value added production and

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generate employment for surplus labour on the farms during off season. Additionally self-help groups can be roped in for packing and labelling etc.

B. Suggestions for Government:

1. **Increase in budget allocations and public investment in Agriculture sector:** Although the contribution of Agriculture is declining over time, the employment levels in agricultural sector of India and Maharashtra have not fallen significantly. 48% of population at the national level and 51% of population in Maharashtra are engaged in agriculture. Therefore increase in allocations to agriculture and agricultural marketing is justified. Gross capital formation in agriculture is very dismal due to low public investment. There is an urgent need to increase the cold chain storage and transport infrastructure for marketing. The share of public sector in the cold storages 0.4% is negligible and is dominated by the private sector 95.4%, the rest is cooperatives.\(^{32}\) Public sector investment is critical due to its multiplier effect on the overall GCF in the sector. Thus, there is a need to formulate a long-term perspective plan for rural infrastructure that focuses on infrastructural projects that have the highest total impact and strongest linkages\(^ {35} \).

2. **Awareness campaigns have to be increased:** The findings indicate that government should take initiative to make awareness about changes in the legal framework of agricultural marketing in Maharashtra. Extension and training programmes will be effective in creating the required awareness and encouraging farmers to use alternative methods of marketing their produce. *Mass Media* should be roped in to advertise the reform policy of the State Government. *Customer Care centers* dedicated for farmers should be equipped with complete and adequate information to handle queries if any by farmers. The Agricultural Produce Marketing Committee can itself operate information kiosks more efficiently to create greater awareness of integrated markets. There is a need for dissemination of market information about market arrivals and prices in real time so farmers can make an informed selection of the markets in which they would prefer to sell.

3. **Vigilance system in Place:** There is a *vanda committee* in APMC market yards. But its role starts post a complaint filed by either party involved in trade. There is a need for prior supervision of trade. There is no vigilance system in place to check the malpractices of big

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\(^{32}\) Organised Agri-Food Retailing in India Pg 50 NABARD 2011.  
\(^{35}\) State of Indian Agriculture 2015-16.
traders and commission agents. It is necessary to set up a vigilance system to restrict the malpractices that take place in APMC markets. Farmer exploitation will continue till such time that vigilance system is set up and operated independently and efficiently.

4. **Minimum Support Price:** Swaminathan Commission has also recommended announcing minimum support prices. For calculation of MSP, some important factors to be considered are (i) labour time used in the collection, (ii) the prevailing wage rate, (iii) transportation cost, if any (iv) market prices and (v) demand – supply analysis. The government must discuss and devise a way to implement the Minimum Support Price strategy even for perishables. Market Intervention Scheme under which procurement of perishable products is done to protect farmers from excessive price fluctuations, needs to be used more often by States.

5. **APMC market yards should operate as competitive markets:** the role of APMC as a regulating body and a marketing agency restricts its efficiency in Marketing. APMC operated regulated markets need to continue operating but more efficiently and competitively. Private and foreign investment may be permitted in these markets to improve their functioning.

6. **Distribution networks for vegetables:** Vegetables are a source of vitamins and minerals required for an active and healthy human life. Therefore governments may consider the use of Rationing shops in the distribution network for vegetables. This will ensure food security as well as offer a Minimum Support Price to vegetable Farmers. Procurement of vegetables at reasonable prices by government agencies will assure farmers of a market and encourage vegetable farming.

7. **Financial inclusion:** It is crucial that farmers are freed from intermediaries and exploitation. Traders and commission agents double up as money lenders to farmers prior to sowing season and procure the produce at low rates before it even reaches the markets. Banking facilities need to improve. Subsidized loans should continue and governments’ need to ensure that these loans reach the really needy marginal and small farmers. Beside production loans there is a need for marketing loans too. Launched in 2002, the Establishment of Agri- Clinics and Agri-Business centres (ACABCs) Scheme was aimed to strengthen the extension services and to tap the potential of unemployed agriculture graduates in order to provide them self-employment opportunities by setting up agri business ventures. Since 2006 loans taken under this scheme for agri ventures are given capital and interest subsidies. Such schemes will create a first line of defence of agribusiness ventures against the malpractices of middlemen successfully.
8. **Agencies and cooperatives focused on marketing need to be set up**: National level marketing federations are unable to understand the needs of each type of crop and each region in the country. Therefore local marketing cooperatives need to be formed and operated on a no profit basis, so that farmers become members willingly and put in efforts in these agencies. Formation of SHGs of growers for post-harvest handling, marketing and primary processing. A good example of such cooperatives is: The district collector of Karbi Anglong brought innovating marketing in 2007 by organizing the growers as federation and facilitating the producers to gain better advantage. Ginger growers of the co-operative Marketing Federation limited (GINFED), a pilot initiative under district administration of Karbi Anglong district of Assam exemplifies the efforts of linking farmers to the market by providing logistic and market support to strengthen supply chain.

9. **Support to farmers’ associations**: Inelasticity of supply can be changed by providing cold storage facilities at the farms and market yards. This will increase the holding power of the farmers against traders as well as processors and commission agents. Farmers’ Associations may be offered land by APMCs to set up cold storage chains. The funding for these chains may be provided by banks through their subsidized credit programmes.

10. **Compulsion for open auctions**: the government can insist that auctions in vegetable markets too should be open, as seen in food-grains’ markets. There is dire need for transparency in market operations so that farmers are not exploited.

11. **Spread of APMC operated markets**: The National Commission on Agriculture in 1976, recommended that one primary market must be made available in an area with radius of 5 sq km. This recommendation has still not been achieved as the average area is 491 sq kms. One major drawback in the sector is the low number of regulated markets in India and Maharashtra. APMCs may enter into MOUs with corporate and foreign investors to set up public-private market yards on BOT basis.
12. **Compulsion for retailers for setting up cold chain storage infrastructure as well as direct procurement:** The Working Group on Agricultural Marketing for XIIth Five Year Plan stated that- Mandating “priority procurement” from small-farmers. Creating a condition for compulsory procurement of 20% from SMF would not be difficult to trade off for entry into the lucrative Indian market. Some proportion of produce sold in these stores should also be directly procured from farmers. Government can mandate that big business retailers will get licenses to sell fresh farm produce only if they set up cold chain storages and pre cooling rooms along with procurement centers near farms.

C. **Suggestions for other stakeholders in the sector:**

Growth of retail sector in the Indian economy would raise factor productivity and growth by 30-40%. Would add US$ 3-5 billion in GDP growth in productivity over five years. It could lower consumer prices by 3-5% by absorbing 0.3-0.5% of total inflation. It could increase farmer income by 20-30% and could improve tax contribution by up to 1% of retail sales or Rs. 3,000 crores. It would create 1.6 million formal jobs in retailing alone. It would add 2-3 times as many new jobs in supporting systems. But the advantages of retail sector growth will benefit stakeholders only when the livelihoods of intermediaries are protected.

1. Local retailers need to have competitive pricing in place. They are now competing with organised retailers with capacity to depress prices temporarily as well as offer discounts to consumers. On the other hand, online marketing is increasing the convenience for consumers with their door step delivery and online payment models. They too offer discounts as they save on logistics. Retailers have to therefore adapt to these models or offer more to consumers.

2. Organised retailers should follow the example of firms like ITC and Foodworld which have endeavored to spread the benefits to farmers through their schemes. ITC initiated the echoupal internet based information kiosk scheme. Farmers are able to access prices and market information in their village itself and make an informed choice of which market to sell their produce in. Foodworld on the other hand has helped farmers brand their product to have greater access to markets.

33 The Great Indian Bazaar Organised Retail Comes of Age in India: McKinsey& Company report: August 2008- New Delhi, Magnum Publishing House
3. To address the growing concern over the loss of livelihood, organized large-scale retailers like Reliance Fresh is inviting small retailers as well as individuals to become franchisees on a revenue sharing model (Thakkar and Bhatt, 2007). Reliance plans of B2B model to service kiranas, while HyperCity Retail suggested formation of cooperatives by kiranas. Such adaptation will go a long way in sustaining organised food retail in the economy.

4. ITC provides market information and procures directly from farmers. It has associated with 4 million farmers since it launched its ‘e-choupal’ project in the year 2000. Tata Chemicals Ltd, has established 820 Tata Kisan Sansars and is associated with 2.3mn farmers across 23000 villages, Mahindra Agribusiness has started the Saboro brand of agricultural produce and aims at associating with 2 mn farmers by the year 2020. Mother Dairy’s Safal initiative is associated with 93 farmers’ associations and procures 300 tonnes of vegetables per day. It also has a tie up with BigBasket.com. 4.375% of MDDLs total turnover is in vegetables. Other retailers should also aim at these backward and forward linkages to firmly root themselves in the sector.

5. NABARD study on Organised Food Retailing in India, points out that Food retailing is an attractive proposition for organised retailers as it ensures regular footfalls into the store. Certain pre-requisites are needed to make direct procurement models work. (1) Organizing farmers into clusters or groups to aggregate produce, bring in scale effect and increase bargaining power; (2) Basic infrastructure at the place of produce for grading, sorting and cleaning; (3) Organised retailer who has the required scale of operation to lift the quantities offered for sale. This involves engagement of stakeholders, a sponsor (typically government agency) and creation of public infrastructure at rural level to be managed by the beneficiary. Therefore firms have to invest time and money in such activities before setting up shop.

6. **Adopting best practices**: France based Carrefour SA-More than 95% of the products available in the Carrefour stores in Thailand are sourced locally. Wal-Mart China has worked with local farmers to develop a cold supply chain linking farms directly to their stores. Its Quality Programme helps Chinese farmers and manufacturers adopt international quality and food safety norms. ASDA, Britain’s best value retailer, became part of the WalMart family in June 1999. ASDA is working towards reducing imports and extending UK growing seasons.34 Such best practices will create a positive image in the

34 Impact of Modern Trade on Employment in India pg 15 CII_ PWC Report.
minds of other stakeholders. Protests by local retailers and commission agents, as were seen in UP and Orissa may be avoided with these practices.

12. Limitations of the study:

The study relates to vegetables and may not show similar results for all agricultural products especially foodgrains. The reform process is an ongoing process, with regulations being announced by the central and state governments from time to time. The changes in the agricultural supply chain are very recent so the real and final impact of the changes may not be defined clearly from the studies at this stage. The study does not take into consideration other factors influencing farmer incomes and growth of markets. The study limits itself to vegetable markets of Pune District largely, with some inputs taken from the Mumbai APMC market. The impact of reforms may differ on stakeholders from different agricultural produce markets in different districts. The study reveals the impact of reforms and policy on five different stakeholders viz; farmers, traders, commission agents, wholesalers and retailers, both organised and unorganized. To that extent it is comprehensive. But consumers’ views are not taken into consideration.

Organised vegetables retailing in India is as yet in nascent phase. The share of Organized vegetables’ retailing in overall retail space is hardly 3-4 percent. Further not many contract farming arrangements are there in the state of Maharashtra. Farmers’ cooperatives in fruits and vegetables are also limited to a few big ones like Mahagrapes etc. Hence the entire impact of reforms has not yet unfolded and it is difficult to draw fixed inferences. Yet the study tries to examine many aspects of the reforms and ensuing policy measures which have changed the nature of the vegetable supply chain as well as put agricultural marketing sector on the path of transformation.

13. Expected contribution of the study:

The study will help to understand the nature of changes taking place in the agricultural marketing sector. The supply chain perspective is a relatively less analyzed angle to increasing efficiency and productivity of agricultural marketing. The study will help to highlight the advantages and disadvantages of organised retailing. There will be a better understanding of farmers and other stakeholders’ perceptions regarding the changes and in that sense it will reveal whether the reform measures are in the right direction. Maharashtra has been declared as the most farmer friendly state yet farmers are agitating
against the State. As reforms are an ongoing process, the study attempts at examining the changes in agricultural marketing in Maharashtra post the implementation of reforms and to reveal how the micro initiatives by the State of Maharashtra will have an impact on stakeholders in this sector. Some policy suggestions will be generated from the practical point of view.

14. Scope for future research:

Possible areas of further research would be the extent of public and private investment in marketing of agricultural produce. To evaluate the extent of loss of livelihoods if any to intermediaries in the sector. To understand the ground reality of farmers and their requirements with regard to marketing of their produce. There can be a study on the growth of farmers’ cooperatives in agricultural marketing in Maharashtra and India. There will be scope to understand the impact of foreign direct investment on the agricultural marketing sector in general. Future research may also focus on the application of technology in marketing such that it assimilates the entire gamut of stakeholders in the sector. Studies may also be undertaken on the impact of globalization on agricultural markets, more specifically the entry of foreign organised retailers and the foreign direct investment made by them on livelihoods of intermediaries in the sector.

15. Conclusion:

Persistent reforms are required to ensure that the initial reforms bring widespread changes and agricultural marketing sector becomes aligned with the mainstream liberalized economy. The extent to which macro policies and micro initiatives are implemented in a coherent way will enable stakeholders in the sector to integrate with the modern system of marketing. The study appears to support the conclusion of working paper by Sulaiman, Kalaivani and Handoo, 2010, which states that ‘only a few farmers have benefited so far, as the retailers only deal with few farmers who could currently meet their limited requirements. Farmers would continue to depend on traditional mandis, even with expansion of organised retail and therefore upgrading the infrastructure and trading practices at these mandis should receive continued attention.’

Farmers believe that the reform of permitting sales of agricultural produce outside the premises of APMC is only a temporary solution. Farmers are mainly food producers. They are unable to make time out of the farm functions to market their produce. They need some strong alternative solutions to APMC markets. The policy of direct marketing from farm to fork, is inadequate to address the issues faced by farmers. Weekly bazaars, cannot satisfy the daily demand that arises in cities like Mumbai and Pune. There are constraints like, space availability, unawareness of consumers, resistance by local retailers and many more. Then, finally due to lack of adequate and efficient alternatives, farmers have to depend on APMCs again. Given the scale of operation of APMCs, it seems rather difficult that organised retailers, commodity exchanges or contract farming arrangements will be able to replace the APMCs entirely. In this context the efforts of the government at establishing e-NAM the internet based national agricultural market is a noteworthy measure. Further marketing and finance functions of commission agents and/or traders are very crucial to all farmers. Hence completely eliminating these agencies from the supply chain may not be a prudent move after all.

The preference of farmers for particular marketing systems is determined by variety of factors such as, accessibility, costs of marketing, trust in market players, market facilities and remuneration. New systems of marketing have to start addressing each of these factors. Reliance and Star Bazaar have started establishing their CPCs which are located at more convenient places in the district, so farmers can access them. Secondly, costs of marketing are minimized as government fees and charges are eliminated. ITC has initiated the echoupal system where farmers are given information on services but not forced to sell produce to ITC. This has earned them respect and trust of farmers. Tatas have set up Kisan Sansars to gain the association of farmers. Reliance also makes available cooling rooms to increase shelf life of vegetables and distress prices can be avoided. So farmers prefer them.

The main findings of the study are broadly in line with the current understanding that, APMC markets are inefficient and alternative modes of marketing are required to make the agricultural marketing sector more competitive. There is also some consensus that direct marketing will benefit both farmers and consumers. But the impediments in ground operations of direct marketing are a sore issue and the sector will need further policy reforms to remove these impediments. As per the National Commission of Farmers’ 2007, swift action is required to overhaul the ryuthu bazars or farmers’ markets, most of which
are controlled by traders. Similar results were found by this researcher that the shetkari bazars, athavda bazars and direct mobile marketing by farmers in Mumbai and Pune District are all controlled by local retailers or wholesalers themselves in the guise of farmers so as to circumvent the market charges.

The recent legislative changes and policy measures introduced in Agricultural marketing sector stem from the similar suggestions offered in most of the national commission reports as well as the intentions’ announced by the government in the Economic Surveys and experts groups’ recommendations regarding measures to be taken in this sector. Two years ago the government has announced doubling of farmers’ incomes by 2022. Towards achieving this goal, the budget for 2018-19 has announced measures such as minimum support price of one and a half times the production costs, development of 22000 rural markets, operation green for balancing demand and supply of onions, tomatoes and potatoes and ‘cluster’ development in agriculture and allied sectors.

Therefore, prima facie, the government is announcing all the right policy measures needed to transform this sector. But as was experienced in Maharashtra all reforms do not lead to positive outcomes. The farmer in Maharashtra had gone on strike to protest against the neglect of Agriculture sector. Traders from all states have protested the entry of big business in retail of food. Indian agriculture is a dominantly supply driven system and gradually needs to change its course towards greater market orientation. However, promoting market-oriented agriculture production should not be attempted at the cost of employment generation and food security particularly in the Indian context.
16. Selected References:

8. IBEF Report on Retail Industry in India_ Overview of Retail Sector, Market Size, Growth..May 2017.